

What is claimed is:

1. A substrate processing system for a substrate processing apparatus having two transferring means, a transfer processing unit, and a plurality of processing units, the transfer processing unit functioning as a transferring portion, the two transferring means transferring a substrate processed by a processing apparatus to the processing units through the transfer processing unit, the system comprising:

10 n number of transfer processing units that perform a predetermined process for the substrate processed by the processing apparatus where n is any integer that is 2 or larger;

15 first transferring means for successively executing transportation cycles to successively and individually transfer substrates from modules where the substrates are placed to downstream modules so as to successively and individually take out substrate from the transfer processing units and transfer the substrates to the processing units;

20 second transferring means for successively and individually transferring substrates processed by the processing apparatus to the transfer processing units; and

25 a controlling portion that controls the first transferring means to successively and individually unload substrates from the transfer processing units

after $(n - m)$ cycles including the current transportation cycle have elapsed where m is any integer that is 1 or larger and smaller than n .

2. (Article 19 amendment) The substrate processing system as set forth in claim 1, further comprising:

means for adjusting times after the processing apparatus unloads substrates until the transfer processing units start processing the substrates to a predetermined time.

3. A coating and developing apparatus for a substrate processing unit that coats a resist solution on substrates and performs a developing process for substrates that have been exposed by an aligner, the apparatus comprising:

a plurality of processing units that perform a sequence of processes to form a resist film on the substrates;

a plurality of processing units that successively perform a sequence of processes to perform a developing process for substrates that have been exposed;

an interface portion disposed between a region of the group of the processing units that forms the resist film and the group of the processing units that performs the developing process and the aligner;

a first transferring portion that transfers substrates on which the resist film has been formed to the interface portion;

n number of heating units that perform a heating process for exposed substrates and that also function as second transferring portions where n is any integer that is 2 or larger;

5 a carrier mounting portion that holds a carrier containing a plurality of substrates;

first transferring means for successively and individually receiving substrates from a carrier held on the carrier mounting portion, transferring the substrates to the processing units that form the resist film on the substrates to a first transferring portion, receiving exposed substrates exposed by the aligner from the heating units, transferring the exposed substrates to the processing units that perform the developing process for the exposed substrates and the carrier held on the carrier mounting portion, and successively executing transportation cycles to transfer substrates from modules that are positions at which substrates are placed to downstream modules so as to take out substrate from the transfer processing units and transfer the substrates to the processing units;

25 second transferring means, disposed in the interface portion, for successively and individually receiving substrates from the first transferring portion, transferring the substrates to the aligner, and transferring substrates exposed by the aligner to

the heating units; and

a controlling portion that controls the first
transferring means to successively and individually
unload substrates from the heating units after (n - m)
cycles including the current transportation cycle have
elapsed where m is any integer that is 1 or larger and
smaller than n.

4. The coating and developing apparatus as set forth
in claim 3,

10 wherein the each of the heating units has a
heating plate that heats a substrate, a cooling plate
that cools the substrate heated by the heating plate,
and means for transferring the substrate between the
heating plate and the cooling plate.

15 5. (Article 19 amendment) The coating and developing
apparatus as set forth in claim 3 or 4, further
comprising:

means for adjusting times after the aligner
unloads substrates until the heating units start
20 performing the heating process for the substrates to a
predetermined time.

6. A substrate processing apparatus that is capable
of transferring a plurality of substrates with an
aligner and performing a predetermined process for the
25 substrates, the apparatus comprising:

a first processing unit that performs a first
process for substrates;

a second processing unit that performs a second process for substrates exposed by the aligner, the second process being different from the first process;

5 a plurality of third processing units that perform a third process for substrates, the third process being different from the first process and the second process;

10 a first transferring mechanism that transfers substrates among the first processing unit, the second processing unit, and the plurality of third processing units;

a second transferring mechanism that transfers substrates among the aligner and the third processing units; and

15 a controlling portion that independently controls the first transferring mechanism and the second transferring mechanism to transfer substrates.

7. (Article 19 amendment) The substrate processing apparatus as set forth in claim 6,

20 wherein the controlling portion controls the first transferring mechanism to unload substrates from the third processing units before the sum of the number of substrates loaded into the third processing units, the number of substrates currently being transferred by one
25 of the first processing unit, the aligner, and the third processing units, and the number of substrates processed by the first processing unit and the aligner

becomes equal to the number of the third processing units.

8. The substrate processing apparatus as set forth in claim 6,

5 wherein the second transferring mechanism has:
a main transferring mechanism capable of transferring substrates to the third processing units;
and
a sub transferring mechanism capable of receiving substrates exposed by the aligner, and
wherein the controlling portion independently controls the main transferring mechanism and the sub transferring mechanism to transfer the substrates.

10 9. The substrate processing apparatus as set forth in claim 6, further comprising:

means for controlling wait times after the aligner exposes substrates until the third processing units start performing the third process for the substrates to keep them uniform.

15 10. (Article 19 amendment) The substrate processing apparatus as set forth in claim 9,

wherein the wait times are times of which real transportation times after the aligner exposes substrates until the substrates are transferred to the third processing units are subtracted from the sum of the maximum value of times after the aligner exposes the substrates until the substrates are received by the

second transferring mechanism and the minimum value of times after the second transporting mechanism receives the exposed substrates until the substrates are transferred to the third processing unit.

5 11. The substrate processing apparatus as set forth in claim 8,

wherein at least one of the main transferring mechanism and the sub transferring mechanism has:

10 a first transferring member that transfers substrates; and

a second transferring member that is movable integrally with the first transferring member and that is capable of transferring the substrates.

12. The substrate processing apparatus as set forth in
15 claim 6, further comprising:

13 a buffering unit that is disposed between the aligner and the third processing units and that buffers substrates to keep times after the aligner exposes substrates until the third processing units start performing the third process for the substrates to be uniform.